

## SPECIFICATION

### GLASS CONTAINER FORMING MACHINE

The present invention relates to an I.S.  
5 (individual section) type of glass container forming machine and more particularly to the takeout mechanism for that machine.

### BACKGROUND OF THE INVENTION

In an I.S. machine, a bottle is formed in a two  
10 part blow mold and when it has been sufficiently cooled so that it can be moved, the blow mold parts open and a takeout mechanism grabs the bottle proximate the finish, lifts the bottle and carries it to a position suspended above a deadplate which is per-  
15 forated to allow cooling air to blow upwardly against the entire bottom of the bottle, continuing the cooling process. When the bottom of the bottle has been sufficiently cooled the takeout mechanism releases the bottle dropping the bottle the distance  
20 it was held above the deadplate, onto the deadplate.

### OBJECT OF THE INVENTION

It is accordingly an object of the present invention to provide an improved takeout mechanism.

Other objects and advantages of the present  
25 invention will become apparent from the following portion of this specification and from the accompanying drawings which illustrate in accordance with the mandate of the patent statutes a presently preferred embodiment incorporating the principles of  
30 the invention.

### BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is an oblique schematic showing of a takeout mechanism;

Figure 2 is a side view showing the  
35 displacement of the takeout from the bottle pickup position to the bottle deposit position; and

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Figure 3 is a logic diagram illustrating the operation of the control for this takeout displacement.

**BRIEF DESCRIPTION OF THE PREFERRED EMBODIMENT**

5        Figure 1 illustrates a takeout mechanism 10  
which is mounted on the section frame 12 of an I.S.  
machine proximate the blow station 14 where a  
parison (not shown), located within a pair of closed  
blow molds (also not shown), is blown into a bottle  
10 16. U.S. Patent No. 5,895,513, illustrates a  
conventional takeout mechanism. The takeout  
mechanism includes a tong arm 18 which supports a  
tong head 20 for each bottle produced at the blow  
station. In the illustration three bottles are held  
15 in three tong heads and the I.S. machine is  
accordingly operating triple gob.

As shown in figure 2, When the bottles have  
been sufficiently cooled, the blow molds will be  
opened so that each formed bottle sits on the bottom  
20 plate of the mold (schematically shown as line 22).

The takeout is displaced over the formed bottles so  
that the tongheads can grip the bottles proximate  
the finish (the threaded, etc. top). The takeout  
control (figure 3) will then Displace The Gripped  
25 Bottle To H1 26 (a selected distance above a  
deadplate 24 which is selected to cool the bottom of  
the bottle as desired). Cooling air flows upwardly  
through holes in the deadplate to cool the bottom of  
the suspended bottles. When the bottoms have been  
30 sufficiently cooled (the query "Has Bottle Been Held  
At H1 For Time T" 28 is answered in the  
affirmative), the control will Lower Bottle To H2 30  
(H2 is a distance above a deadplate 24 which is  
selected to be at or very close to the deadplate).  
35 When the control answers the query "Has Bottle Been  
Lowered To H2" 32 in the affirmative, the control

will Release The Bottle Onto The Deadplate 34. As shown the control has inputs for H1, H2 and time T so that an operator can define the displacement for the particular bottle being produced.

- 5        As illustrated in figure 2, the takeout mechanism has vertical and horizontal displacement in a two axis mechanism with each mechanism controlled by a servomotor 40,42. Alternately the tong arm could be pivotally mounted and driven  
10       through an arc by a single servomotor.

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